



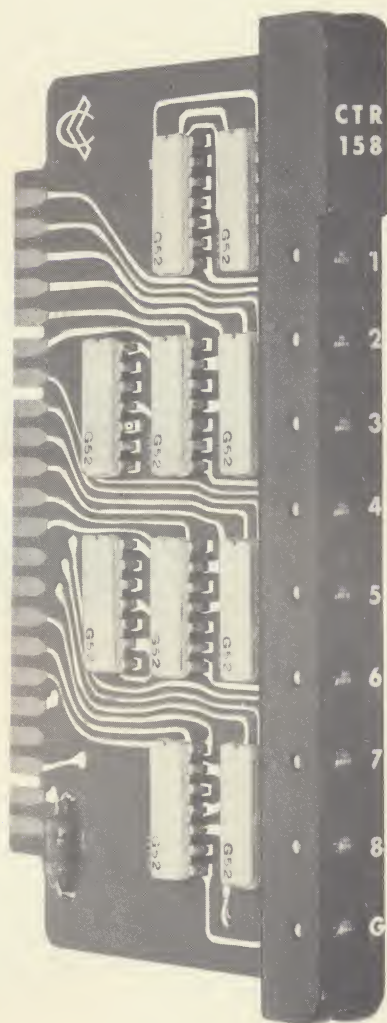
CONTROL LOGIC, INC.

SERIES C

MICRO PRODUCTS

BROCHURE 8b

A COMPLETE FAMILY OF DC TO 5MC
IC LOGIC CARDS AND ACCESSORIES



| | |
|-----------------|--|
| Frequency | DC to 5 MC plus 10MC counting |
| Noise Rejection | 1 volt min. |
| Fan Out | 6 to 24 |
| Supply Voltages | ± 5 volts |
| Power | 50mv per IC |
| Temperature | 0°C to +70°C (MIL option -55°C to +125°C) |

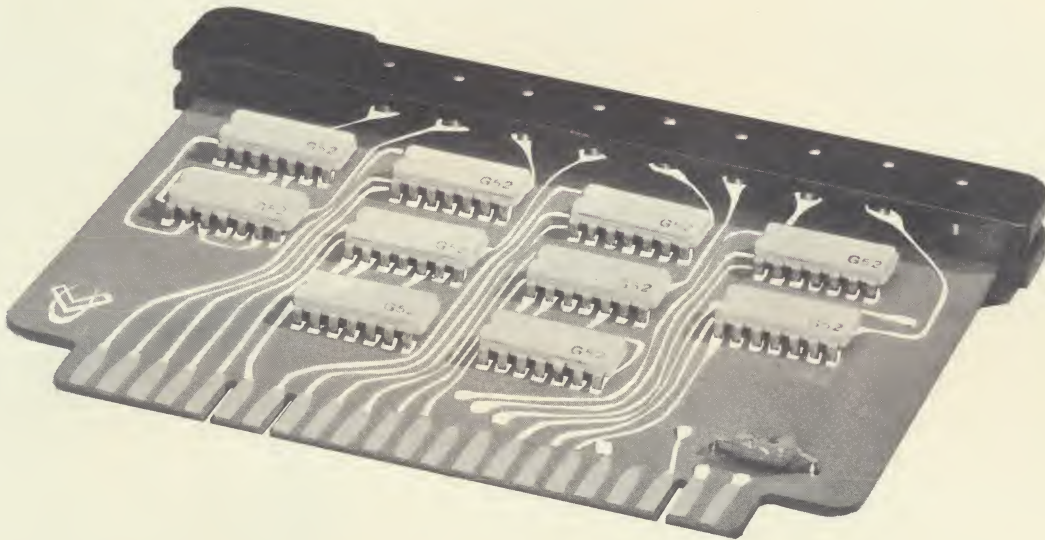
JANUARY, 1966

SUBSIDIARY OF
SCHAEVITZ ENGINEERING

3 Strathmore Rd., Natick, Mass. (617) - 655-1170 — 235-1865
10842 So. Paramount Blvd., Downey, California (213) - 861-9223

This brochure summarizes the electrical and mechanical features of Series C logic cards and accessories and gives complete listings and descriptions of available types. Programmable systems, instruments and enclosures are described in companion brochures.

For users, a Series C applications manual is available which gives complete operating and applications data for individual card and accessory components.



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GENERAL DESCRIPTION

Series C is a complete family of products for digital design and system construction — micro logic cards for functional design — accessories and enclosures for packaging — programmable systems for design analysis, test programming and service training.

Series C cards combine the small size and high reliability of monolithic integrated (IC) circuits with conventional NAND logic and low cost modular design. They offer a "building block" family with exceptional flexibility and economy.

These products are designed and rated for systems. The use of TTL integrated logic gives high noise rejection and ability to drive high capacity loads. Serviceable card design uses in-line IC modules, and is coupled with high density cages to allow compact system packaging.

Highlighting the C Series are:

| | |
|----------------------|--|
| OVER 30 CARDS | including input/output level shifters, 40 ma lamp and .25A relay drivers, 100 mv signal shapers, line drivers, and 0.1% analog components. |
| LOGIC SELECTION | of 2, 4, and 8 input NAND gates — 4 and 6 JK flipflop cards — 8 and 12 bit counters and registers — plus types for delay and clock generation. |
| TTL PERFORMANCE | with 3V signal levels, 1V noise rejection, fanout of 6 to 24, and 5 MC operation under 300 pf load. |
| SYSTEM DESIGNED | with test terminals for checkout, buffered clock and reset inputs, and "functional cards" for multiplexing, comparison, encoding and parity. |
| IN LINE IC MODULES | give rugged low-cost construction with conventional solder assembly and easy replacement. |
| COMPLETE ACCESSORIES | for rack, drawer, or instrument assemblies, 2A to 20A power supply, electrical test, and special card assemblies. |

Plus "MIL option" for -55°C to $+125^{\circ}\text{C}$, and a forthcoming 20 MC companion family.

CIRCUITS

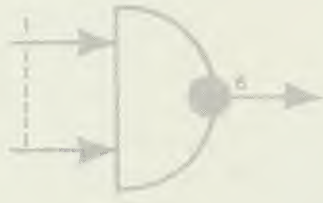
IC LOGIC

The C Series employs high level TTL integrated circuits. The high noise threshold of these circuits and their ability to drive heavy capacity loads represents a major advancement in these areas over previous IC designs.

The IC components are procured from a major supplier in this field and multiple sources are available for the same devices.

With TTL, the NAND gate is the basic logical circuit. This gate performs the NOT AND function with positive true inputs, and the NOT OR function with negative true inputs.

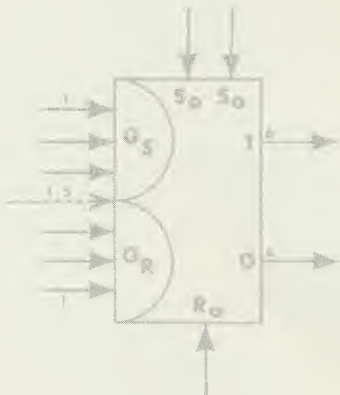
NAND GATES



C cards provide NAND gates with 2, 4, and 8 input options. To optimize high speed performance, these gates are not supplied with input expansion. Other gate types are available, however, which do permit input expansion as well as output (OR) buffering.

A power gate supplies high drive capability for clock and reset lines. This gate, as with all circuit types, is short circuit proof and has very low delay.

JK FLIPFLOP



A single JK flipflop is used for counting, shifting, and logical operations for asynchronous or clocked transfer. This flipflop has one trigger input with three set and three reset gates. Two DC set and one DC reset inputs are also provided.

The trigger input is activated by a 1-0 input transition (trailing edge triggering) for nonambiguous timing in counter and register operation. The flipflop is self-complementing through internal feedback connections and without gate control will commute with successive trigger inputs.

Set and reset gate inputs are enabled at logic 1 levels. On application of a trigger input, the flipflop takes the state determined by the gate inputs. DC set/reset inputs are enabled at logic 0 (0V) input. Flipflop operation from all inputs is illustrated in the waveforms on page 8.

AUXILIARY

Pulse forming, time delay and clock generation are performed by individual circuits for this purpose. Both crystal controlled and variable clock sources are supplied. A selection of input/output circuits meets most interface requirements.

FUNCTIONS

Prewired functional networks feature 8 and 12 bit counters and shift registers, an 8 bit comparator, octal/decimal decoder, and serial adder/subtractor (see listing on page 10.) These reduce system design largely to that of specifying functional blocks. This family will be extended in scope and variety.

PERFORMANCE

ELECTRICAL

Series C performance is largely standardized to simplify logical design and application.

A single supply voltage of +5V is used by logic circuits. Auxiliary input/output circuits use, in addition, a -5V bias. Power connections (as well as clock and reset inputs to flipflops) are standard on all card types.

Inputs are defined in terms of unit loads on a driver. Each circuit can drive 6 or more loads plus up to 300 pf of stray capacity. Common reset and clock inputs are buffered to avoid heavy loads.

Logic levels of 0V and +3V (nom) are standard. All inputs are DC coupled and reject impulse or level shifts of 1V or greater at 0V and +3V levels.

All specifications are inclusive of worse case tolerances in supply voltage, temperature and loading.

The operating temperature range of Series C circuits is 0°C to +70°C; storage is -65°C to +150°C. Average power per IC module is 50 mv — average current per 40 card cage is 4A. Cages are designed for self-convection cooling up to 40°C.

RELIABILITY

Series C products are designed, specified, and tested to assure the highest possible reliability in application and in operating life. Rigid inspection and test controls and documentation are applied to insure basic product integrity and provide complete defect traceability.

Construction and specifications are based upon end use considerations of mechanical and electrical stresses and heat transfer. 100% testing is performed to specified limits of loading, frequency, and noise rejection.

Only proven IC and discrete components are employed which are conservatively derated in power and end life tolerances. The IC devices have been in application for over 18 months. To date field performance and life tests allow a predictability in excess of 2.5 million hours MTBF with 60% confidence.

All circuits are short circuit proof and all have current limited inputs. Over voltage ratings of +40% and surge ratings of up to 100% insure against incidental application failures.

PACKAGING

IC MODULES

The IC devices selected for the C Series are 14 pin dual in-line modules with dimensions of .3 by .7 by .15. This format allows reliable low cost card design. IC modules are plug-in mounted and are easily assembled or replaced using conventional hand or flow soldering.

C CARDS

C Series cards are blue G10 grade glass epoxy material with dimensions of 3.0 by 4.5 by .25. Up to twelve IC modules are mounted for standard logic functions. Timing, input/output and analog cards employ hybrid construction and use only silicon semiconductors.

Each card is uniquely keyed and all have test points for observation of circuit outputs. Card insertion and extraction is facilitated by a molded handle, which also gives part identification by circuit type and color code.

CONNECTORS

C cards plug into a 44 pin bifurcated connector which is available with choice of solder, wire wrap, or pin terminations. Cards have gold plated etched fingers to insure reliable electrical connection. Three key positions uniquely identify each card type and prevent reverse insertion.

CAGES

Basic card cage assemblies hold 40 solder or wire wrap connectors and are supplied for bench mounting, and rack panel installation. Slide drawer cages mount 80 and 120 connectors. Instrument types have a front panel option for mounting of controls and displays with provision for internal mounting of power and cooling units.

All cages are supplied preassembled and power wired. Connector frames in each case are easily removed for convenient bench wiring.

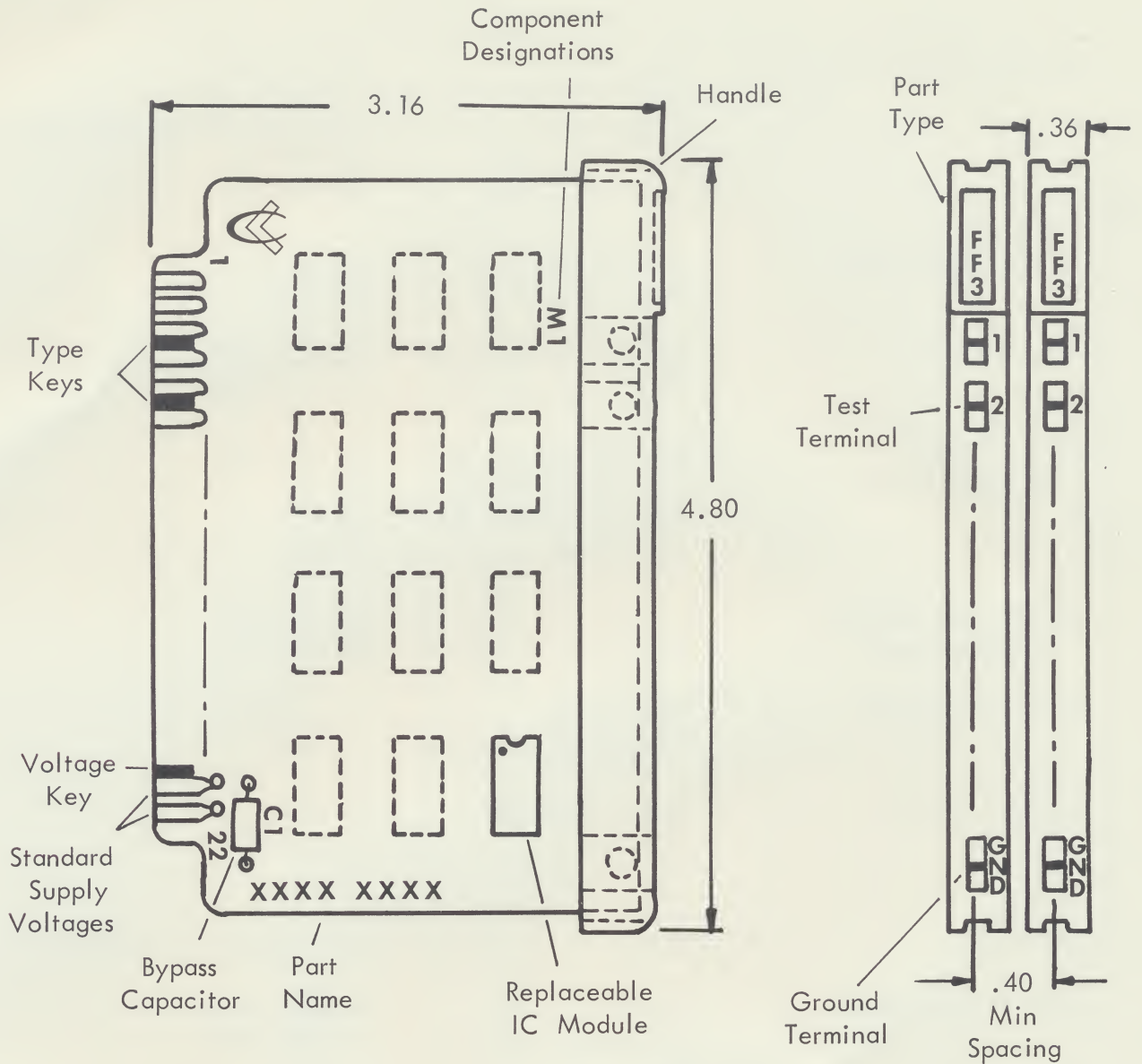
SPECIAL CARDS

Special combinations of up to 12 circuits may be assembled using program card 503. This standard size card mounts one to three IC modules of any type. Signal connections are prewired by etched leads to individual card terminals with common power connections at standard card voltage terminals.

These program cards are assembled to specification by Control Logic, Inc. or can be easily fabricated at the customer's site.

Other accessories offer test units, power supplies, special card assemblies, and display components. A complete listing is given on page 13.

CARD FEATURES



STANDARD CONNECTIONS

| | |
|-----------|-----------------------------|
| Pins 22/Z | 0V |
| Pins 21/Y | +5V |
| Pins 20/X | Common Reset (Flipflops) |
| Pins 19/W | Common Clock |
| Pins 1/A | Load Ground (Relays, Lamps) |
| Pins 2/B | Special Voltages |

Contacts are numbered 1 to 22 on component side
 Contacts are lettered A to Z on wiring side

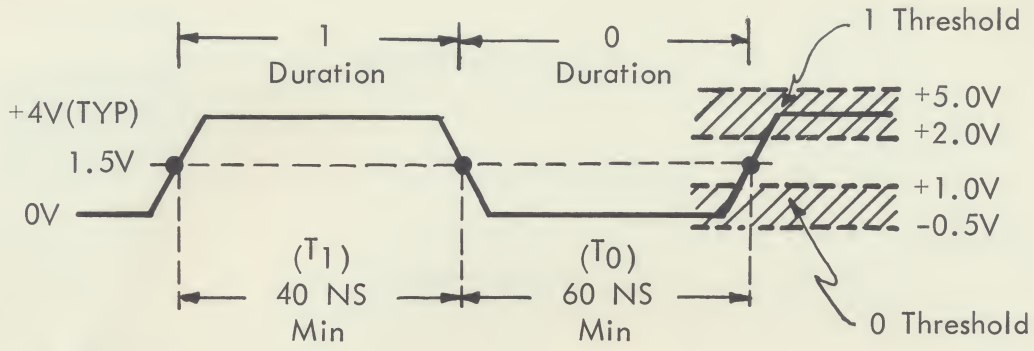
ELECTRICAL SPECIFICATIONS

| | | |
|----------------------------------|---------------------------|-------------------------------------|
| SIGNAL CHARACTERISTICS | Logic 0 Level | 0V to +0.5V |
| | Logic 1 Level | +2.8V to +4V |
| | Trigger Input | 2.5V min./100 NS max. negative step |
| | Logic 0 Duration | 60 NS min. |
| | Logic 1 Duration | 40 NS min. |
| INPUT THRESHOLDS | Logic 0 Level | -0.5V to +1.0V |
| | Logic 1 Level | +2.0V to +5.0V |
| FREQUENCY | 300 pf Capacity Load* | DC to 5 MC |
| | 50 pf Capacity Load | DC to 10 MC |
| DELAY TIMES @ 100 pf Load | Turn ON Delay T_{DO} | 20 NS max. |
| | Turn OFF Delay T_{DI} | 40 NS |
| | Gate Pair Delay T_{DP} | 50 NS |
| | Carry Time | 40 NS |
| SWITCHING TIMES @ 100 pf Load | +2.5V to .5V Time T_0 | 20 NS max. |
| | .5V to +2.5V Time T_1 | 30 NS max. |
| INPUT LOADING | Gate Inputs | 1 Load |
| | Trigger Input (Flipflops) | 1.5 Load |
| OUTPUT DRIVE** @ 5 MC | Gates, Flipflops | 6 Loads |
| | Amplifier | 24 Loads |
| | Stray Capacity* | 300 pf |
| FAN IN | Gates | 2, 4, and 8 are standard options |
| SUPPLY VOLTAGES | Nominal Values | +5.0V, -5.0V |
| | Maximum Values | +7.0V, -12V |
| | Tolerances | |
| | Maximum | $\pm 0.5V$ |
| Recommended | $\pm 0.2V$ | |
| TEMPERATURE RANGE | Operating | 0°C to +75°C |
| | Storage | -65°C to +150°C |

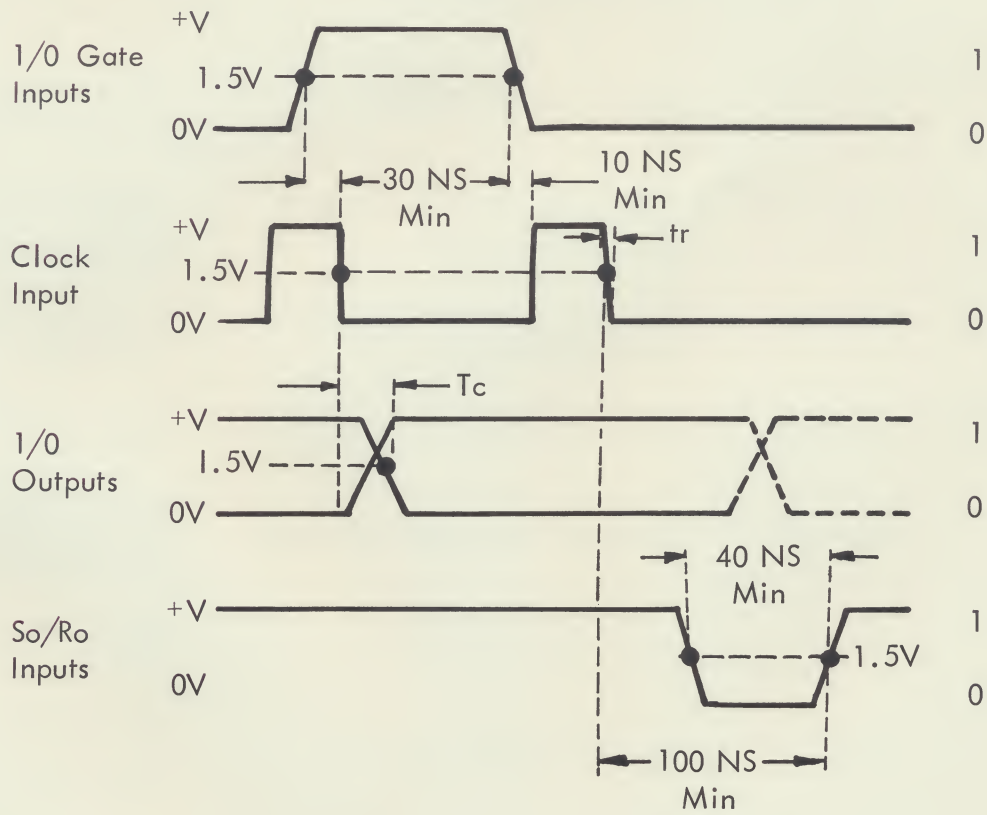
*Capacity loading of flipflops in clocked networks is 100 pf max.

**Rated in terms of input loads.

SIGNAL CHARACTERISTICS



INPUT SIGNAL SPECIFICATIONS (@ 5 mc)



FLIPFLOP TIMING

T_c - Carry Time (40 NS TYP)
tr - 20 NS Recommended

CIRCUIT CARD TYPES

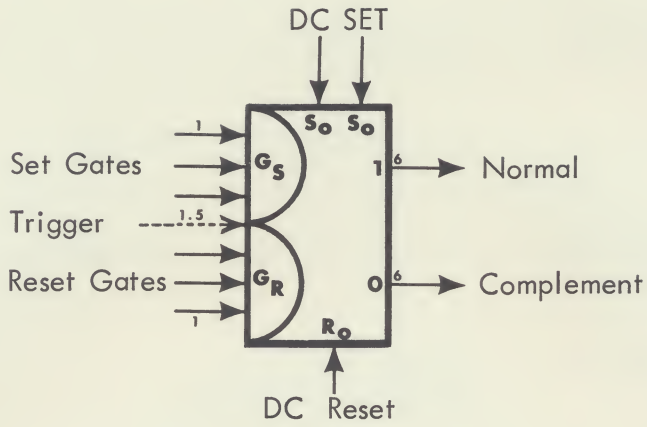
| <u>Type</u> | <u>Part No.</u> | <u>Description</u> | <u>Applications</u> |
|--------------|-----------------|---|--|
| FLIPFLOPS | CFF-152 | 6 CLOCKED FLIPFLOPS | BIN/BCD counting, shifting frequency division and gated storage |
| | CFF-153 | 4 LOGICAL FLIPFLOPS | |
| GATES | CNG-152 | Twelve 2-input NAND GATES | Signal inversion Buffer amplification Control/logical gating |
| | CNG-154 | Eight 4-input NAND GATES | |
| | CNG-158 | Four 8-input NAND GATES | |
| | CPA-156 | Six POWER GATES | |
| TIMING | CPS-151 | Three PULSE SHAPERS | Time delay and pulse forming, 100 NS to 1 MS |
| | CCM-151 | Adjustable CLOCK SOURCE with synchronizer | 10 MC to 100 KC signal generation |
| | CCG-151 | Precision CLOCK SOURCE with synchronizer | 10 MC to 5 MC clock generation |
| INPUT/OUTPUT | CDA-151 | Two DIFFERENTIAL AMPLS. | Signal shaping, threshold detection |
| | CBD-111 | BIN/DEC DECODER DRIVERS | BIN to DEC conversion with 28V/100 MA drive |
| | CRD-111 | Five RELAY DRIVERS | 48V/.25A drive for solenoid operation |
| | CLD-118 | Eighteen LAMP DRIVERS | 28V/40 MA lamp or relay drive |
| | CTD-152 | Two LINE DRIVERS | 50 to 90 ohm transmission line drive |
| | CVC-101 | Six input LEVEL CONVERTERS | Convert up to +100V inputs to 0/+3V outputs |
| | CVC-102 | Six output LEVEL CONVERTERS | Convert 0/ 3V inputs to 0/-18V outputs |

FUNCTIONAL CARD TYPES

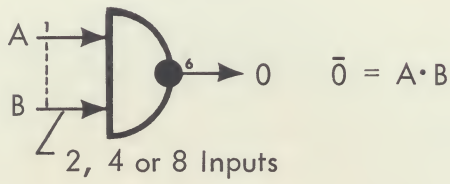
| <u>Type</u> | <u>Part No.</u> | <u>Description</u> | <u>Applications</u> |
|--------------------|-----------------|---|---|
| COUNTERS | CTR-158 | 8 stage TRANSFER REGISTER | Clocked data storage, input/output transfer |
| | CBC-153 | 12 stage BIN/BCD COUNTER | Frequency division Time Base Generation Data accumulation |
| | CBC-152 | 8 stage "fast carry" BIN/BCD COUNTER | |
| | CRC-152 | 8 stage presettable REVERSIBLE COUNTER | Data accumulation, preset detection |
| SHIFT REGISTERS | CSR-153 | 12 stage serial SHIFT REGISTER | Serial/Parallel Code Conversion Sequencing |
| | CSR-152 | 8 stage presettable SHIFT REGISTER | |
| DECODING | CTG-156 | 6 digit TRANSFER MATRIX | Transfer gating of one to six 4 bit characters |
| | COC-151 | BIN to OCTAL/DEC CONVERTER | Addressing, sequencing |
| | CXO-158 | 8 exclusive OR GATES | Parity generation and detection; grey/binary coding; comparison |
| ARITHMETIC | CAS-151 | Serial ADDER/SUBTRACTOR | Serial arithmetic operations |
| | CBR-151 | 1 decade BIDEC REGISTER | BIN to BCD conversion |
| CONVERSION | CAC-101 | DA REGISTER | 4 bit BIN/BCD conversion to 10V (FS) analog |
| | CCP-101 | ANALOG COMPARATOR | Precision comparator for AD conversion |
| | CVR-101 | PRECISION VOLTAGE REFERENCE SOURCE | 10V/16.667V reference for 10V DA conversion |

SYMBOL DEFINITIONS

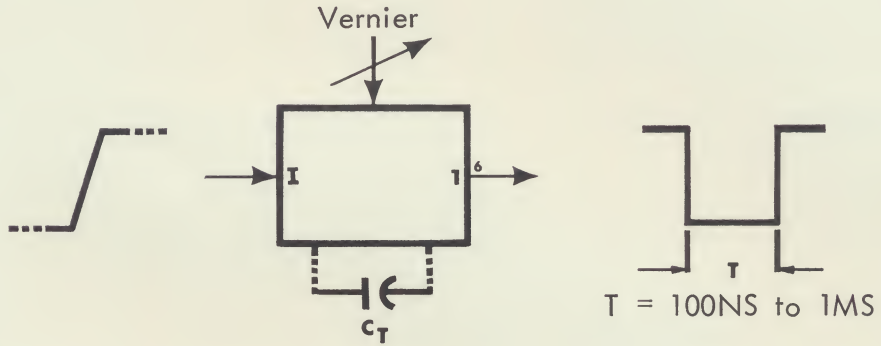
FLIPFLOPS



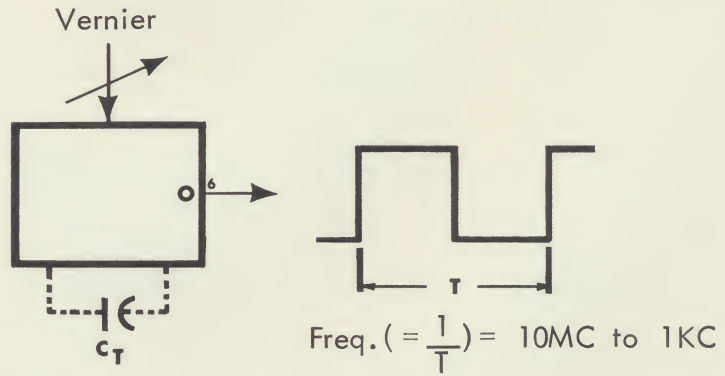
NAND GATES



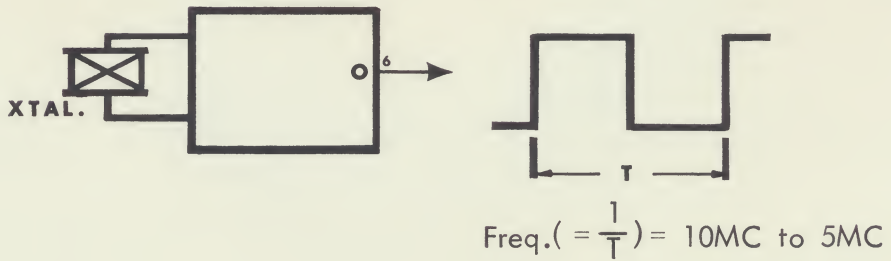
PULSE SHAPER



CLOCK MULTIVIBRATOR

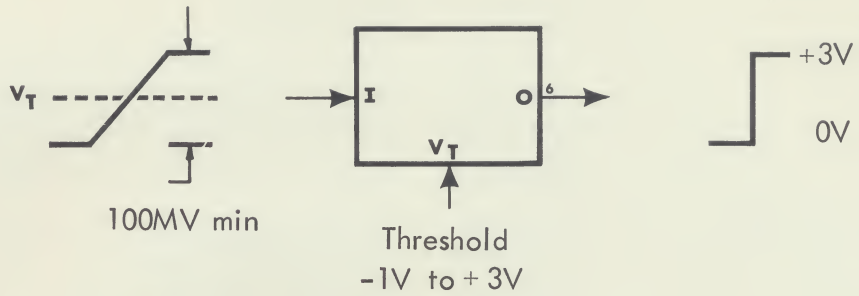


CRYSTAL CONTROLLED OSCILLATOR

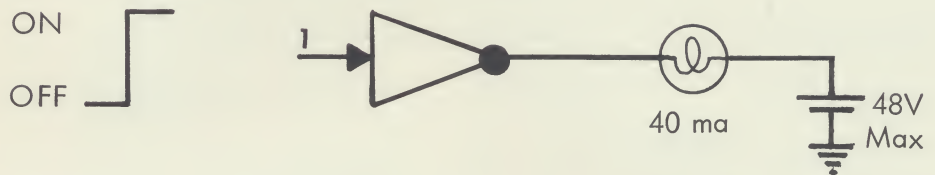


SYMBOL DEFINITIONS

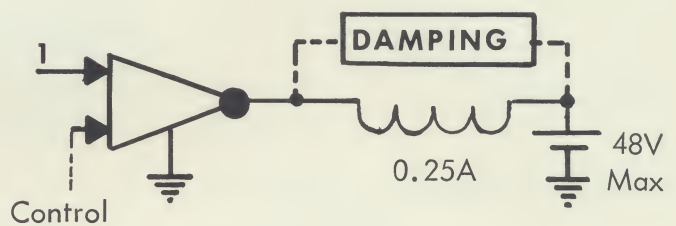
DIFFERENTIAL AMPLIFIER



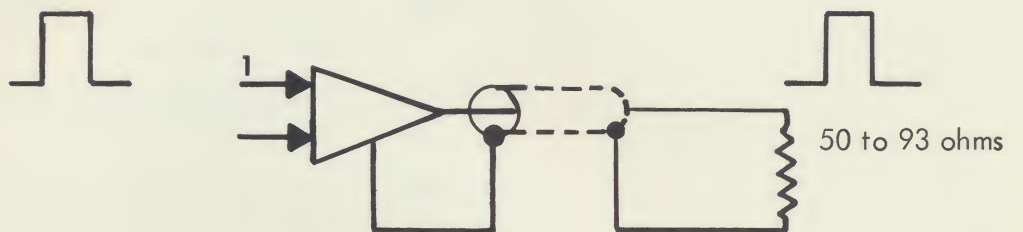
LAMP DRIVER



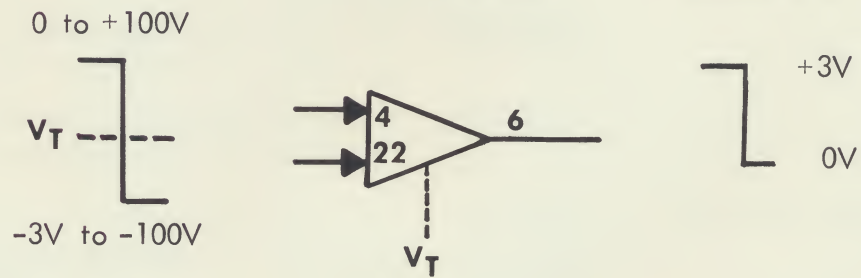
SOLENOID DRIVER



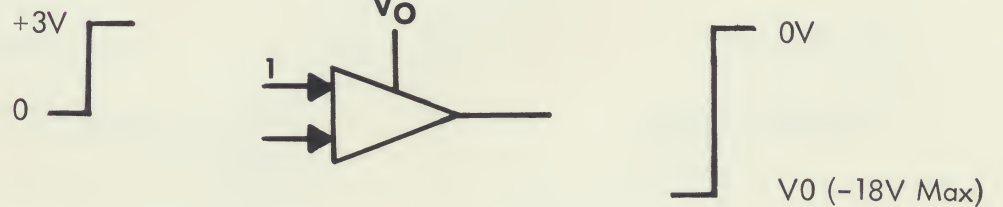
LINE DRIVER



INPUT CONVERTER



OUTPUT CONVERTER



Numbers adjacent to inputs specify input load
Numbers adjacent to outputs specify output drive

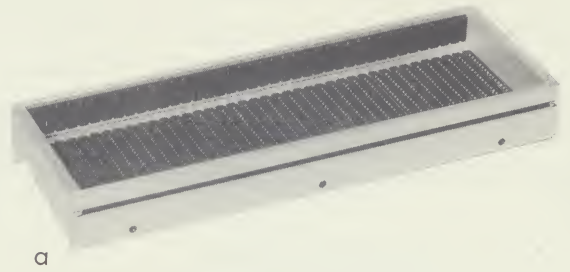
ACCESSORIES

| <u>Type</u> | <u>Part No.</u> | <u>Description</u> | <u>Code</u> |
|----------------------------|-----------------|--|-------------|
| SOCKETS | CNS-544 | 44 pin connector with solder lug terminations | S |
| | CNP-544 | 44 pin connector with insert pin terminations | P |
| | CNW-544 | 44 pin connector with wire wrap terminations | W |
| | CND-544 | 44 pin connector with printed card terminations | D |
| MOUNTINGS | CMS-501 | Socket CHIP plug-in mounting one IC module | |
| | CMS-506 | Card "STRIP" mounting 6 sockets | |
| | CMB-506 | Mounting bracket for 506 STRIP or six 501 CHIPS | |
| EXTRACTOR | CXR-501 | Card Extractor | |
| INDICATOR | CIU-501 | Panel indicator with incandescent lamp and driver | |
| ACCESSORY CARDS | CXC-501 | Extender Card | |
| | CBC-501 | Blank Card | |
| | CPC-503 | Program Card for 3 IC modules | |
| TEST UNITS | CTU-501 | IC Module Test Unit | |
| | CTU-502 | C Series Card Test Unit | |
| CARD HOUSINGS ¹ | CFW-540 | Card Frame which mounts 40 S or W connectors or 20 P connectors | |
| | CGB-540 | 5 $\frac{1}{4}$ in. Basic Cage holding 40 S or W connectors or 20 P connectors | |
| | CGS-540 | System Cage – Same as Basic Cage except with hinged front panel | |
| | CGI-540 | Instrument Cage – Same as System Cage except with extended depth for power supply and cooling | |
| | CGD-502 | 5 $\frac{1}{4}$ in. Drawer Cage which mounts 80 S or W connectors or 40 P connectors, plus cooling | |
| | CGD-503 | Same as 502 Drawer Cage except mounting 120 S or W connectors or 60 P connectors | |
| | | | |
| POWER SUPPLIES | CPS-502 | 5V - 2A power pack for mounting in the CGI cages | |
| | CPS-508 | 5V - 8A rack mounting (3 $\frac{1}{2}$ in.) supply | |
| | CPS-520 | 5V - 20A rack mounting (5 $\frac{1}{4}$ in.) supply | |
| COOLING UNIT | CCU-502 | 5 $\frac{1}{4}$ in. rack mounting forced air cooling unit | |
| ASSEMBLY UNITS | CWA-501 | Wire Wrap Assembly Kit; tools, wire instructions | |
| | CWA-502 | Wire Wrap Gun | |
| | CWA-502 | Wire Wrap Jumper Set (800 leads) | |
| | CPA-501 | Twin-Con Assembly Kit; tool, jumpers, instructions | |
| | CPA-503 | Twin-Con Jumper Set (400 leads) | |

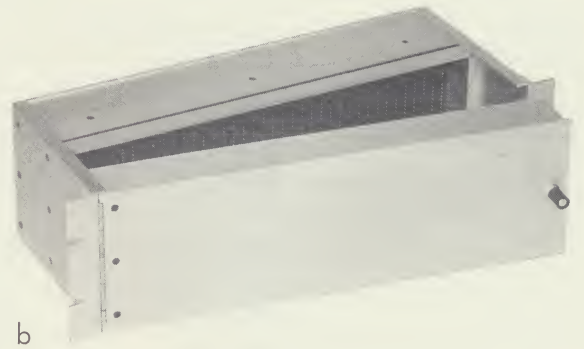
¹Specify connector option by adding S, W, or P, after the cage part number.

ACCESSORIES

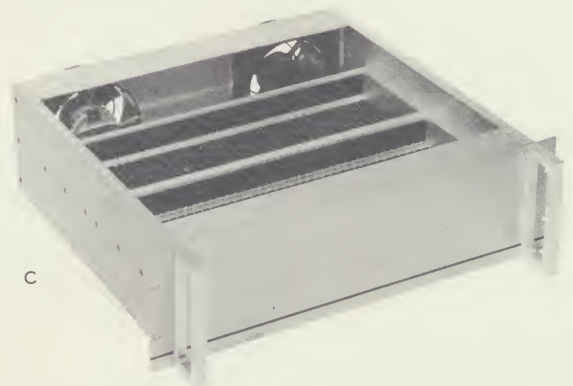
The 40 connector FRAME allows bench breadboarding and is removable from all cages for convenient backboard wiring.



The BASIC and SYSTEM Cages (shown right) with hinged front panel, are high density rack housings for system use.



Two or three FRAME slide drawer cages house up to 1200 circuits with self-contained cooling and front panel space for controls and readout.



Compact 8A and 20A power supplies power 80 and 200 cards (typ) for systems. A 2A power pack internally mounts in "CGI" cages for instrument packaging.



Control Logic, Inc. representatives and application engineers gladly supply applications assistance for all products. Educational and application brochures are available to help users in product training and design. Control Logic, Inc. will also provide training and application seminars to assist users.

Control Logic, Inc. also provides application engineering services to design and build special purpose digital data handling, measurement, and control systems.

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CONTROL LOGIC, INC.
 Subsidiary of
 Schaevitz Engineering

PRICE LIST

SERIES C 5 MC MICRO CARDS

| Type | Part No. | Description | Unit Prices | | |
|--------------|----------|-------------------------------|-------------|--------|--------|
| | | | 1 - 4 | 5 - 24 | 25-99 |
| FLIPFLOPS | CFF-152 | 6 CLOCKED FLIPFLOPS | 87.50 | 84.00 | 81.00 |
| | CFF-153 | 4 LOGICAL FLIPFLOPS | 65.50 | 62.00 | 59.50 |
| GATES | CNG-152 | Twelve 2-input NAND gates | 44.50 | 42.00 | 39.50 |
| | CNG-154 | Eight 4-input NAND gates | 44.50 | 42.00 | 39.50 |
| | CNG-158 | Four 8-input NAND gates | 47.50 | 45.00 | 42.50 |
| | CPA-156 | Six 4-input POWER gates | 82.50 | 75.00 | 70.50 |
| TIMING | CPS-151 | Three PULSE SHAPERS | 76.00 | 72.00 | 69.50 |
| | CCM-151 | Adjustable CLOCK SOURCE | 75.50 | 72.00 | 67.50 |
| | CCG-151 | Precision CLOCK SOURCE | 96.00 | 91.50 | 87.50 |
| INPUT/OUTPUT | CDA-151 | Two DIFFERENTIAL AMPLIFIERS | 96.00 | 91.50 | 87.50 |
| | CBD-111 | BIN/DEC DECODER DRIVERS | 97.00 | 92.50 | 89.50 |
| | CRD-111 | Five RELAY DRIVERS | 87.00 | 84.50 | 81.00 |
| | CLD-118 | Eighteen LAMP DRIVERS | 90.50 | 84.00 | 78.50 |
| | CVC-101 | Six input LEVEL CONVERTERS | 85.50 | 79.50 | 75.50 |
| | CVC-102 | Eight output LEVEL CONVERTERS | 96.00 | 90.50 | 86.50 |
| CONVERSION | CAC-101 | DA REGISTER | 140.00 | 134.00 | 129.00 |
| | CCP-101 | ANALOG COMPARATOR | 128.00 | 122.50 | 118.50 |
| | CVR-101 | REFERENCE SOURCE | 168.00 | 161.00 | 155.50 |
| COUNTERS | CTR-158 | 8 stage TRANSFER REGISTER | 106.00 | 101.50 | 98.50 |
| | CBC-153 | 12 stage BIN/BCD COUNTER | 156.00 | 149.00 | 144.00 |
| | CBC-152 | 8 stage BIN/BCD COUNTER | 129.00 | 125.00 | 121.00 |
| | CRC-152 | 8 stage REVERSIBLE COUNTER | 144.00 | 139.50 | 134.00 |
| REGISTERS | CSR-153 | 12 stage SHIFT REGISTER | 156.00 | 149.00 | 144.00 |
| | CSR-152 | 8 stage SHIFT REGISTER | 129.00 | 125.00 | 121.00 |
| DECODING | CTG-156 | 6 digit TRANSFER MATRIX | 94.50 | 90.50 | 88.00 |
| | COC-151 | BIN to OCTAL/DEC CONVERTER | 102.00 | 99.50 | 96.00 |
| | CXO-158 | 8 exclusive OR GATES | 111.00 | 107.00 | 101.50 |
| ARITHMETIC | CAS-151 | Serial ADDER/SUBTRACTOR | 112.00 | 104.00 | 98.50 |
| | CBR-151 | 1 decade BIDECE REGISTER | 114.00 | 105.50 | 102.50 |

100 up quantity prices quoted on request.

TERMS: F.O.B. Natick
 1/2 of 1% - 10 days
 Net 30 days
 March 1, 1966

3 Strathmore Road
 Natick, Massachusetts

Tel. 617 235-1865
 655-1170

10842 So. Paramount Blvd.
 Downey, California

213 861-9223

CONTROL LOGIC, INC.
 Subsidiary of
 Schaevitz Engineering

ACCESSORIES
 SERIES C

| | | | | | |
|-----------------|---------|-------------------------|----------|----------|----------|
| SOCKETS | CNS-544 | 44 Pin S Connector | | | 3.50 |
| | CNP-544 | 44 Pin P Connector | | | 7.50 |
| | CNW-544 | 44 Pin W Connector | | | 6.60 |
| | CND-544 | 44 Pin PC Connector | | | 3.50 |
| MOUNTINGS | CMS-501 | Socket Chip | | | 10.50 |
| | CMS-506 | Socket Strip | | | 55.00 |
| | CMB-506 | Strip Mounting Bracket | | | 16.00 |
| | CFT-540 | Connector Chassis | | | 39.00 |
| EXTRACTOR | CXR-501 | Card Extractor | | | 12.00 |
| INDICATOR | CIU-501 | Panel Indicator | | | 12.00 |
| ACCESSORY CARDS | CXC-501 | Extender Card | | | 25.00 |
| | CBC-501 | Blank Card | | | 15.00 |
| | CPC-503 | Program Card | | | 15.00 |
| TEST UNITS | CTU-502 | Card Test Unit | | | 200.00 |
| CARD CAGES | CFW-540 | Card Frame | <u>S</u> | <u>W</u> | <u>P</u> |
| | CGB-540 | Basic Cage | 145.00 | 225.00 | 190.00 |
| | CGS-540 | System Cage | 175.00 | 250.00 | 220.00 |
| | CGD-502 | Drawer Cage (80 cards) | 215.00 | 290.00 | 260.00 |
| | CGD-503 | Drawer Cage (120 cards) | 490.00 | 675.00 | 585.00 |
| POWER SUPPLIES | CPS-502 | 2A Modular Supply | | | 175.00 |
| | CPS-508 | 8A Rack Supply | | | 425.00 |
| | CPS-520 | 20A Rack Supply | | | 750.00 |
| COOLING UNIT | CCU-502 | Cooling Unit | | | 175.00 |

1. S-Solder Lug, P-Twin con Pin, W-Wire Wrap, D-Printed Card Mounting.
2. Cages are preassembled and power wired. Specify termination desired by adding designator letter S, P, or W, to cage part number: i.e., CGB-540S is a basic cage with solder lug connectors.

TERMS: F.O.B. Natick
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213-861-9223

STANDARD WARRANTY

1. Control Logic (CL) Inc., warrants all its products against defects in workmanship, performance, and construction to the extent that at its own option it will, a) replace or repair without charge, material of its own manufacture which is determined to be defective, within ONE YEAR from date of delivery and, b) will pass on original manufacturer's warranties which cover electrical purchased parts.

2. This warranty does not apply to any products that have been subjected to misuse, neglect, accident, or improper installation, application, or operation, or to any products that have been repaired or altered by other than authorized CL personnel. Control Logic, Inc. will attempt to honor this warranty promptly but shall not be liable for any delay in this respect or for indirect or consequential damages resulting therefrom.

3. For service under warranty, notify the factory of all details and request return authorization. Transportation charges for return of defective products shall be at Control Logic expense, providing products are judged by Control Logic to be defective under conditions of this warranty.

AVAILABILITY

Standard Control Logic products are generally available from stock and will be shipped normally within three working days from receipt of order. Delivery of non stock items and all special products will be as quoted.

SHIPMENTS

Except when otherwise specified, shipments will be made as follows:

Under 20 pounds -- Parcel Post

Under 50 pounds -- United Parcel Service (New England only)

Over 20 pounds -- Railway Express, Truck or Carloading Company

At request we will expedite shipment by Air Freight, Air Express, Air Parcel Post, or other specified carrier.

Control Logic, Inc. requests immediate notification for any claims arising from damage in transit in order to determine if carrier responsibility exists.

ORDERING

For standards, order by catalog model number and name of product. For specials, state all significant specifications or reference to an available purchase specification previously defined. Orders should be sent to the office at Natick, Massachusetts.

TERMS

Domestic terms are 1/2 of 1% - 10 days; NET 30 days. All prices are quoted F.O.B. Natick, Massachusetts.

ACCEPTANCE OF ORDER

Upon receipt of any order Control Logic, Inc. will issue an "order acknowledgement" to the purchasing source. Any exceptions, corrections, etc., to the original order will be stated on this acknowledgement. In the event of discrepancies, Control Logic, Inc. requires a change order correcting such discrepancies prior to acceptance of the original order. All communications should reference both purchase order number and the acknowledgement number (S-XYZ).

CONTROL LOGIC, INC.
3 Strathmore Road
Natick, Massachusetts

September 1965